

REMARKS

Claims 5-6 and 11-15 are pending and under consideration. Claims 13-15 were previously allowed. By means of the present amendment, the claims have been amended to recite materials comprising grains that have a grain size not larger than 10 μm . No new matter has been added. No new matter has been added. Entry of the amendment is respectfully requested.

Rejections under 35 U.S.C. §§ 102(e) and 103(a)

Claims 5-6 and 11-12 were rejected under 35 U.S.C. §§ 102(e) and 103(a) over Barker et al. (US Pat. No. 6,528,033), filed January 18, 2000. Applicants submit that the electrode materials as set forth in the claims 5-6 and 11-12 as presently amended are neither anticipated nor reasonably suggested by the cited reference, as Barker et al. does not teach positive electrode materials containing grains of the size and composition as those set forth in the claims as presently amended.

Claims 5-6 and 11-12 as presently amended recite a positive electrode material comprising grains. Said grains comprising a compound of formula $\text{Li}_x(\text{Fe}_y\text{M}_{1-y})\text{PO}_4$ wherein $0.9 \leq x \leq 1.1$ and $0 < y \leq 1$ (See par. [0064] of the publication of the present application, US Publ. Pat. Appl. No. 2004/0002003). M contains at least one 3d transition metal (See par. [0064] and examples at par. [0059]), and the grains have a grain size not larger than 10 μm (See par. [0060]; Fig.18). Without being bound to any particular theory, it was found that non-aqueous electrolyte secondary batteries containing such materials have an extremely high capacity (See, for example, pars. [0142]-[0143] and [0146]).

By contrast, Barker et al. discloses lithium-mixed metal phosphates of general formula $\text{Li}_a\text{Ml}_b\text{MII}_c(\text{PO}_4)_d$ (See col. 2, l. 31). Ml can be a metal, whereas MII is preferably a non-transition metal or a semi-metal (See col. 2, ll. 47-65). Example compounds are $\text{LiFe}_{0.9}\text{Mg}_{0.1}\text{PO}_4$ (See col. 19, ll. 36-52; Fig. 4); $\text{LiFe}_{0.9}\text{Ca}_{0.1}\text{PO}_4$ (See col. 20, l. 66 to col. 21, l. 16; Fig. 6) and LiV_2O_5 (See col. 21, l. 60 to col. 22, l. 2). Although compounds wherein MII is a transition metal are also set forth, namely $\text{LiFe}_{0.8}\text{Zn}_{0.2}\text{PO}_4$ (See col. 21, ll. 38-59; Fig. 10), Barker et al. fails to disclose materials with a grain size as set forth in the claims as presently amended. Accordingly, Applicants respectfully

submits that Barker et al. does not anticipate Applicants' invention as claimed in the claims as presently amended because Barker et al. fails to teach every element and limitation of the claims at issue.

Additionally, Applicants respectfully submit that Barker et al. fails to reasonably suggest the subject matter of the claims as presently amended. The cited reference does not address the relationship between grain size and battery performance. Consequently, one of ordinary skill in the art at the time of the invention would not have found it obvious to manufacture materials comprising grains with a grain size no larger than 10 μm , especially in the case wherein said grains comprise a compound of formula $\text{Li}_x(\text{Fe}_y\text{M}_{1-y})\text{PO}_4$, wherein M is one or more 3d transition metals.

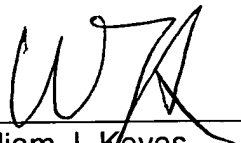
Conclusion

Applicant respectfully requests withdrawal of the rejections and believes that the claims as presented represent allowable subject matter. If the Examiner desires, Applicant welcomes a telephone interview to expedite prosecution and is available at the telephone number below. The Commissioner is hereby authorized to deduct any deficiency or credit any overpayment to Deposit Account No. 19-3140.

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Respectfully submitted,

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